Cape May Plant Materials Center

United States Department of Agriculture
Natural Resources Conservation Service

Plant Materials Program
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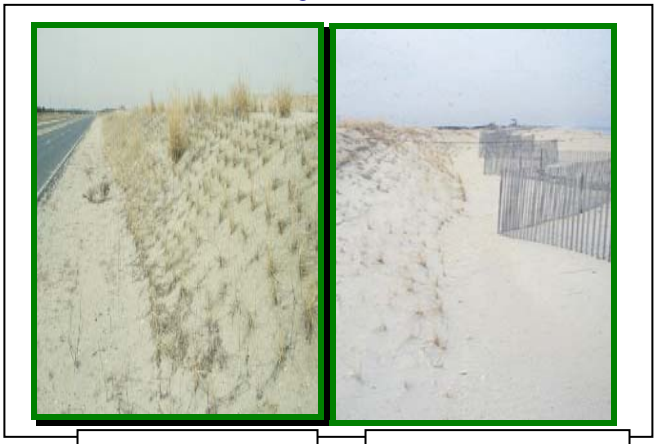
Investigations into American beachgrass (*Ammophila breviligulata)* Die-Out at National Park Service Unit, Sandy Hook, NJ



Roadside of berm | Oceanside of berm

In The Field:

In early spring of 1999, Bill Skaradek of the Cape May PMC inspected stands of 'Cape' American beachgrass that died at the National Park Service (NPS) park unit at Sandy Hook, New Jersey. Bruce Lane of the NPS noted that the beachgrass was installed to vegetatively stabilize a protective berm along the park entrance road. According to Mr. Lane, the beachgrass did well for about two years and then died out.

Bill Skaradek of NRCS and Bruce Lane of NPS inspecting beachgrass

Diagnostic Features Described

During the site inspection, several features were noted. The installed plants did not exhibit the development of rhizomes. There were significant amounts of thatch present around each planting unit. Low volumes of sand were present within the sand or snow fencing that was installed to trap wind blown sand particles.

Interpretation of Features

The lack of sand within the fencing system was an indication that there was negligible amount of new sand coming in. Additionally, the perching of plants or the erosion of sand from around the base of some plants further indicated that sand was actually leaving or shifting within the site. The presence of thatch indicated that for the preceding two growing seasons no burial of the plant was taking place. This lack of burial allowed for the build up of thatch which then served to harbor a complex of different pathogens.

Results and Recommendations

It was determined that either the USDA NRCS cultivar Cape was being improperly applied or the follow-up management of Cape was insufficient to safeguard the stabilization of the berm.

Specifically, American beachgrass, and particularly the geno-type Cape, physiologically evolved in the areas of the dune system that experience accretion or sand accumulation. At undetermined thresholds, American beachgrass exhibits its best vigor or health when sand is being deposited. Moderate burial processes stimulate new growth and also bury the old leaves and vegetative materials, thus eliminating thatch build-up and pathogen harbor.

When planted in areas that receive little to no sand accumulation, Cape will survive (not thrive) for a couple of growing seasons before succumbing.

Typically, a beach or a section of beach experiences erosion. Land managers (federal, state and local municipalities, etc.) are required to protect infrastructure (roads, sewer lines, utilities, and buildings). Through either dredging or trucking materials in a dune type structure is engineered and then planted to Cape American beachgrass for stabilization.

Though there is a new artificial deposit of sand, the system is still located in a section of beach that is not receiving new sand inputs from natural sources. Depending on the materials used to form the berm or artificial berm, the beachgrass can live up to about the third growing season before dying. In several instances, engineering firms trucked in I-5 road gravel and expected the beachgrass to thrive. This did not occur.

Management Recommendations

The beachgrass will survive and stabilize the site temporarily, but some other materials need to be incorporated. When seed of dune plant species are available, incorporate into the planting medium before the installation of beachgrass. 'Atlantic' coastal panicgrass, 'Brooklyn' switchgrass, Monarch seaside goldenrod, coastal little bluestem, Pioneer seaoats, 'Wildwood' bayberry, 'Ocean View' beachplum are a few of the diverse materials that have been developed by the USDA NRCS Cape May Plant Materials Center.

If a site has already been planted to beachgrass, some of these same species can be planted using a hand pushed planter. Depending on funding considerations, one may wish to consider additional vegetative components such as saltmeadow cordgrass and some of the same species named above.

For additional information, contact: NJ Plant Materials Specialist Chris Miller at (732) 246-1171X174 or cmiller@nj.nrcs.usda.gov, or the Cape May PMC Manager at wskaradek@nj.nrcs.usda.gov.

To learn more about the Plant Materials Program, visit our website at: **http:// Plant-Materials.nrcs.usda.gov.**